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Breaking the Trade Barrier: Common Property Solutions to Tropical Deforestation

Mara Kimmel Hoyt*

INTRODUCTION

Deforestation claims seventeen million hectares of the world's tropical forests each year.¹ Tropical forests represent most of the forest lands in developing nations, accounting for forty-two percent of the world's forests.² Tropical forests benefit the environment, economy and culture of Central and South America, Southeast Asia, and West Central Africa.³ Rapid deforestation threatens the continued health and stability of these regions.

The international community's response to tropical deforestation relies primarily on manipulating trade channels.⁴ The success of these efforts, however, is limited. Effective solutions to deforestation depend upon global approaches that lie beyond the realm of international trade.

National land tenure policies bear directly on forest management and may proliferate deforestation. Today, policies that privatize land and resources are typically heralded as the best arrangement to promote resource conservation.⁵ This narrow approach to land tenure policies precludes consideration of alternative ownership arrangements that may better suit the unique conditions of developing nations. This Note argues that common

* The author is grateful to James Kelleher and Dr. Daniel Bromley for their ideas and assistance in the development of this Note.

1. THE WORLD RESOURCES INSTITUTE, WORLD RESOURCES: 1992-93 118 (1992) [hereinafter WORLD RESOURCES INSTITUTE].

2. Brian Chase, *Tropical Forests and Trade Policy: The Legality of Unilateral Attempts to Promote Sustainable Development under the GATT*, 17 HASTINGS INT'L & COMP. L. REV. 349, 354-55 (1994). There are three types of forests: temperate, boreal, or tropical. *Id.* Temperate forests are located between the tropics and the Arctic circle, and boreal forests are generally found in arctic regions. *Id.*

3. *Id.*

4. See DURWOOD ZAELEKE ET AL., TRADE AND THE ENVIRONMENT: LAW, ECONOMICS, AND POLICY (1993) (examining the relationship between trade and the environment).

5. See *infra* Part III.B.

property systems facilitate sustainable forest management⁶ to a greater degree than other systems, and therefore deserve national and global attention.

Beyond re-evaluating domestic land policies, combating deforestation requires cooperation between the international arena, national governments, and local communities dependent on forest resources. The international community is in a unique position to promote such tri-level partnerships. These partnerships will enable national policy makers to effectively address rising rates of tropical deforestation. Part I of this Note discusses deforestation in general, briefly analyzing its causes and effects. Part II examines the international community's role in simultaneously perpetuating and preventing tropical deforestation. Part III focuses on national land policies by providing a framework analyzing land tenure arrangements and their potential for achieving sustainable forest management. Part IV delineates common property arrangements as an alternative land management regime for developing nations. Part V analyzes the ability of the global community to promote common property alternatives. This Note concludes that although trade is part of the solution to tropical deforestation, the international community must address a broader array of policy issues.

I. TROPICAL DEFORESTATION

Tropical deforestation accelerated dramatically during the 1980s.⁷ The Food and Agriculture Organization issued a report in 1991 finding that fifty percent more tropical forests were cut and cleared than initially projected.⁸ Deforestation adversely affects the natural environment, economic livelihood and cultural viability of tropical nations.

Environmentally, the consequences of deforestation are severe. According to the World Resources Institute, "[t]ropical deforestation is currently a significant environment and development issue. Loss of tropical forests diminishes biodivers-

6. Sustainable forestry is managing a forest to provide a harvest level maintained ad infinitum. DAVID M. SMITH, *THE PRACTICE OF SILVICULTURE* 428 (1986). For example, if a tree species takes one hundred years to grow to maturity, when it is harvestable, and the managed forest area is one hundred acres, then the area could sustain an annual harvest area equaling one acre.

7. WORLD RESOURCES INSTITUTE, *supra* note 1, at 118. The rate of deforestation was not nearly as dramatic in temperate or boreal forests and in some cases the area of these forests has increased rather than decreased. *Id.*

8. *Id.* Original estimates projected that 11.3 million hectares would be cut and cleared each year. *Id.*

ity . . . contributes to climate change by releasing stored carbon into the atmosphere, and often results in serious soil degradation, sometimes rendering the land unfit for future agriculture."⁹ As tropical forests recede, forest products, fuel sources and medicinal plants are lost.¹⁰ Poor forest practices also cause soil erosion, flooding and siltation which reduce agricultural productivity.¹¹

Deforestation creates economic hardships. Rapid deforestation can transform timber exporters into importers.¹² If forest depletion in the 1990s continues at the 1980's rate, the number of tropical timber exporters will fall from thirty-three to less than ten by 1999.¹³

Tropical forests are vital as well to many indigenous cultures in Africa, Asia, and Latin America. Over 500 million people live in or near these forests.¹⁴ These communities depend on the forest for food, shelter, medicines and commercial products.¹⁵ Government programs encouraging urban resettlement, agricultural projects and timber operations erode the resource base available to local populations.¹⁶

9. *Id.*

10. Dennis J. Maher, *Deforestation in Brazil's Amazon Region: Magnitude, Rate, and Causes*, in ENVIRONMENTAL MANAGEMENT AND ECONOMIC DEVELOPMENT 85, 87 (Gunter Schramm et al. eds., 1989).

11. *Id.*; WORLD RESOURCES INSTITUTE, *supra* note 1, at 118.

12. Chase, *supra* note 2, at 356. For example, the Philippines, a timber exporter in the 1960s and 1970s, became an importer in the 1980s. *Id.*

13. THE WORLD RESOURCES INSTITUTE, TROPICAL FORESTRY: A CALL FOR ACTION 10 (1985), cited in Robert Repetto, *Overview*, in PUBLIC POLICIES AND THE MISUSE OF FOREST RESOURCES 10 (Robert Repetto & Malcolm Gillis eds., 1988).

14. *Id.*

15. *Id.*

16. JASON W. CLAY, INDIGENOUS PEOPLES AND TROPICAL FORESTS 2 (1988).

Poverty is closely linked to deforestation.¹⁷ Tropical forests are located in cash-poor, resource-rich countries.¹⁸ International trade in tropical wood provides much needed capital for exporting countries.¹⁹ It is not the primary cause of deforestation, however.²⁰ In fact, only one percent of all trees felled in tropical forests are exported as logs or processed timber.²¹ The remainder are cleared as a result of state run programs designed to provide fuelwood supplies and land for agriculture and cattle grazing.²² In many tropical nations, these government sponsored programs encourage the "development" of forested areas.²³ Forest lands are often poorly managed because a nation's immediate needs outweigh the long term benefits of well-managed forests.

The international community recently identified sustainable forest management as the preferred solution to deforestation.²⁴ Sustainable forestry minimizes conflicts over forest

17. Despite the close connection between poverty and deforestation, the tendency to blame poverty for deforestation is problematic. Poverty, like deforestation, is a result, not a cause, of deeper social and economic problems. In this sense, perhaps it is more appropriate to view poverty as a co-symptom, rather than a cause, of environmental destruction. Letter from Daniel Bromley, Anderson-Bascom Professor of Agriculture Economics at the University of Wisconsin Madison (Sept. 4, 1995) (on file with author).

The Food and Agriculture Organization disagrees. They echo the sentiment of many when they state, "[f]orest depletion in the developing world is not fundamentally rooted in logging or even in clearing for agriculture. It is rooted in poverty, underdevelopment and population growth. It is the success in confronting these challenges that will ultimately determine the fate of the greater part of the world's forests." FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, CHALLENGE OF SUSTAINABLE FORESTRY MANAGEMENT: WHAT FUTURE FOR THE WORLD'S FORESTS 118 (1993) [hereinafter FAO REPORT].

18. See WORLD RESOURCES INSTITUTE, *supra* note 1, at 118-25.

19. Chase, *supra* note 2, at 360.

20. *Id.* at 359-60.

21. *Id.* at 356.

22. Maher, *supra* note 10, at 87.

23. Repetto, *supra* note 13, at 1, 15. Title to forest lands is conferred on those who "improve" it by clearing the land for some other use. *Id.* at 15. In addition to the environmental degradation that results, these land clearing programs displace indigenous communities and other forest dwellers. *Id.* By taking over ownership of forest lands, states vitiate the traditional rights of local communities to manage forest resources. *Id.*

24. United Nations Conference on Environment and Development: *Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests*. U.N. Doc. A/CONF.151/6/Rev.1 (1992), reprinted in 31 I.L.M. 881 (1992) [hereinafter *Forestry Principles*]. These principles reflect the international community's understanding that if we are to meet the demands of future generations, sustainable management is the appropriate target for global natural resources. *Id.* For a definition of sustainability, see *supra* note 6.

resources while enhancing opportunities for environmental stability, economic growth and cultural survival within tropical forest ecosystems.²⁵ While the global community has identified sustainability as a desirable forestry objective, no consensus has emerged on how to implement this goal.

II. THE INTERNATIONAL COMMUNITY AND DEFORESTATION

Although the problems of deforestation seem domestic in nature, the international community plays an important role in both the cause and the cure of tropical deforestation. The global community typically attempts to curb deforestation through trade and assistance programs. These programs, however, meet with limited success.

A. THE INTERNATIONAL COMMUNITY AS A CAUSE OF DEFORESTATION

International aid projects may have unintended, yet significant, detrimental effects in developing countries.²⁶ Tropical forests are a popular focus for internationally funded research projects with multiple and often conflicting goals.²⁷ Such projects include programs to increase foreign earning capacity through timber trade, relocate urban populations, and generate food supplies through sound agricultural practices.²⁸ These programs often perpetuate deforestation even though originally designed to prevent them.²⁹

The global market's failure to properly reflect the replacement costs of tropical woods also perpetuates deforestation.³⁰

25. *Id.*

26. David A. Wirth, *Legitimacy, Accountability & Partnership: A Model for Advocacy on Third World Environmental Issues*, 100 YALE L.J. 2645, 2649 nn. 16-17 (1991).

27. CLAY, *supra* note 16, at 2.

28. *Id.*

29. Fred Pearce, *High Stakes in the Rainforest*, GUARDIAN, Oct. 19, 1990, at 29. Pearce illustrates one example of an international plan to save the rainforests that provided the Food and Agriculture Organization with the funds to implement the Tropical Forestry Action Plan. *Id.* The FAO's Forestry Department controlled the funds, and critics claim that this plan has accelerated, rather than abated, deforestation. *Id.* This criticism stems from allegations that the FAO Forestry Department emphasizes forest industry initiatives rather than forest conservation measures. *Id.*

30. Chase, *supra* note 2, at 361-62. The price of temperate woods is typically much higher than that of tropical timber because tropical timber resources are undervalued on the world market. *Id.*

Market prices rarely include the social or environmental costs of timber harvesting.³¹ The consistent undervaluation of tropical timber in international and domestic markets leads to over-exploitation.³²

The international community causes deforestation indirectly. Conflicts between developed and developing nations over economic and environmental issues prevent their cooperation in solving deforestation problems. Developed nations blame developing nations for the rapid decline of tropical forests.³³ Conversely, developing nations see developed nations as "eco-bullies"³⁴ insensitive to the economic needs of their citizens.³⁵ This dissension polarizes the global community and foments suspicion between developed and developing nations.³⁶

These conflicts are rooted in different ideas about the role of environmental protection in economic development. Developed nations have the luxury of a relatively secure economic structure. Wealthier countries can focus on environmental degradation because economic instability does not threaten their very

31. WORLD RESOURCES INSTITUTE, *supra* note 1, at 122.

32. *Id.*

33. Bertram S. Brown, *Developing Countries in the International Trade Order*, 14 N. ILL. U. L. REV. 347, 382 (1994). Brown discusses concepts of "eco-imperialism" and "green protectionism" in describing conflicts between developed and developing nations in solving international problems. *Id.*

34. *Id.*

35. FAO REPORT, *supra* note 17, at 118. The FAO condemns northern nations for their haste in blaming developing nations for the world's environmental woes:

Condemnation of developing countries for the way in which they are exploiting their forest resources is futile. The processes of encroachment and forest clearing are for all practical purposes unstoppable at the present levels of economic development in the great majority of the tropical countries . . . [T]he forests of the tropics must increasingly be brought under effective management to reach the point where they constitute a sound land-use option that provides income for local people and is economically sustainable. Industrialized countries have no grounds for moral superiority in environmental matters. They remain primarily responsible for ozone depletion, the threat of global warming, most of the use of irreplaceable fossil fuel resources and the depletion of . . . other biological resources. . . . In urging developing countries to conserve forest resources, they must be sensitive to charges of eco-colonialism or eco-bullying and must accept that they too not only must behave responsibly but also must bear a fair share of the costs of conserving the global environment.

Id.

36. A recent newspaper account notes that "[m]any third world governments still see the West's 'concern' over the environment as a plot to curb their growth, not as an opportunity to avoid the West's destructive pattern of development." Ian Guest, *The Rocky Road to Rio*, GUARDIAN, Aug. 9, 1991, at 23.

existence. The economic differential between developed and developing nations often precludes consensus on global environmental issues, including the fate of tropical forests. One particularly compelling illustration of the differences between the world's rich and poor arose during the 1992 Earth Summit in Rio:

The original idea among the developed countries was to produce a ring-ing declaration in Rio which 'kids all over the world could hang on their bedroom walls.' But then the developing countries rather unhelpfully pointed out that many of the children in their part of the world don't have bedrooms.³⁷

B. INTERNATIONAL EFFORTS TO COMBAT DEFORESTATION

Trade is a familiar channel in international relations and an obvious place to look for multilateral cures to global problems.³⁸ The solutions posited for deforestation are no exception. The international community has instituted a variety of trade mechanisms to address deforestation.³⁹ Because these efforts have met with minimal success, it is important for policy makers to reach beyond trade-based approaches.

1. The International Tropical Timber Agreement

Established in 1983, the International Tropical Timber Agreement (ITTA)⁴⁰ regulates international trade between producer and consumer nations.⁴¹ The agreement incorporates environmental principles by encouraging the "development of national policies aimed at sustainable utilization and conservation of tropical forests."⁴² In 1990, the organizational arm of the

37. Frank McDonald, *If This is Progress, We're in Deep Trouble*, IRISH TIMES, June 11, 1992, at 7, cited in Ranee Khooshie Lal Panjabi, *From Stockholm to Rio: A Comparison of the Declaratory Principles of International Environmental Law*, 21 DENV. J. INT'L L. & POL'Y 215, 221 (1993).

38. Many analysts advocate free trade as a means for increasing environmental protection. See Geza Feketukuty, *The Link between Trade and Environmental Policies*, 2 MINN. J. GLOBAL TRADE 171, 179 (1993). See generally Ambler H. Moss Jr., *Global Trade as a Way to Integrate Environmental Protection and Sustainable Development*, 23 ENVTL. L. REV. 711 (1993) (describing the need to pursue both development and environmental protection).

39. See generally ZAEKE, *supra* note 4, at xiii - xv.

40. UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT, INTERNATIONAL TROPICAL TIMBER AGREEMENT, U.N. Doc.TD/Timber/11/Rev.1, U.N. Sales No. E.84.II.D.5 (1983).

41. See Chase, *supra* note 2, at 367-74 (describing the ITTA's evolution and its attempts to regulate the tropical timber trade).

42. UNITED STATES INTERNATIONAL TRADE COMMISSION, PUB. NO. 2351, INTERNATIONAL AGREEMENTS TO PROTECT THE ENVIRONMENT AND WILDLIFE 5-44 (1991).

ITTA adopted an objective stating that tropical timber exports should come from "sustainably managed resources" by the year 2000.⁴³

Despite this environmental caveat, the ITTA has failed to ensure environmental sustainability in tropical forest areas.⁴⁴ One reason for this failure is the inability of the signatory nations to agree on a definition of sustainability.⁴⁵ Another reason is the structure of the ITTA itself. The ITTA's voting system slants power toward the primary producer and consumer nations,⁴⁶ arguably promoting its trade goals at the expense of its conservation goals.

2. The Failed Attempt to Use Trade Barriers

Consumer nations have proposed a variety of trade measures to force developing countries to adopt sustainable forest practices. One measure proposed levying import surcharges to fund projects promoting sustainable forestry.⁴⁷ Another approach focused on market-oriented incentives to promote sustainable development through timber certification.⁴⁸ Neither has been adopted, and both are controversial.

The potentially undesirable side effects that may accompany trade restrictions compound the difficulty of reaching a

43. Chase, *supra* note 2, at 371.

44. *See id.* at 369-71.

45. *Id.* at 371.

46. *Id.* at 369. Voting in the ITTA is weighted. The system first distributes votes between consumer and producer nations, then within each camp according to each nation's level of consumption or production. *Id.* Japan holds the most votes of any consumer nation; the United States is a distant second. *Id.* Japan imports almost sixty percent of its timber, while the United States imports slightly less than ten percent. *Id.*

Malaysia is the primary producer nation, exporting over forty percent of all tropical timber compared to Indonesia's nineteen percent. *Id.* Malaysia thus retains the most votes among producer nations. The amount of a nation's tropical timber land in no way contributes to calculating its voting power within the ITTA. *Id.*

47. WORLD RESOURCES INSTITUTE, *supra* note 1, at 122. Timber producers resisted this suggestion because of its potential to lower prices. *Id.* Producers argued that the devaluation of timber would encourage the conversion of forest lands to more lucrative non-forest uses such as agriculture. *Id.*

48. Sharif Haron, *Malaysia: Ensuring Good Forest Management*, BUS. TIMES, Apr. 11, 1994, at 4. Environmentalists and some Western European countries suggest certifying timber from sustainably managed forests. *Id.* There are no internationally adopted standards for such a labeling scheme, however, and timber producers criticize certification because the proposal does not include temperate and boreal wood. *Id.*

multilateral agreement.⁴⁹ A recent dispute between Austria and Malaysia over timber certification illustrates how trade barriers can fail. In 1992, Austria passed legislation requiring woods containing tropical timber to certify whether or not the wood was produced from sustainably managed forests.⁵⁰ This legislation also imposed an import tax on all products made from tropical wood.⁵¹ Austria attempted to adopt a consumer-oriented approach to pressure producing nations to implement sustainable forest management.

The legislation backfired, however, and Austria's efforts to impose trade restrictions on tropical timber producing nations failed.⁵² Malaysia alleged discriminatory treatment in a formal complaint through the General Agreement on Tariffs and Trade (GATT)⁵³ because Austria did not impose similar restrictions on temperate wood.⁵⁴ Malaysia ultimately reached a compromise with Austria and withdrew its complaint.⁵⁵ This dispute exemplifies the tension between tropical nations and the developed world over the environment and its role in economic development.⁵⁶

C. LIMITS OF TRADE-BASED SOLUTIONS

Many trade analysts concerned with environmental protection believe trade reform is vital to promote sustainable resource development.⁵⁷ However, trade barriers such as quotas or export bans may be illegal under the GATT.⁵⁸ The legality of trop-

49. For example, Thailand implemented a ban on log exports in order to conserve its remaining forests. WORLD RESOURCES INSTITUTE, *supra* note 1, at 122. As a result, an illegal timber market began to thrive and legal timber operators sold out to black marketeers over whom the Thai government could exercise no control. *Id.*

50. Chase, *supra* note 2, at 375-76.

51. *Id.* at 375.

52. *Id.* at 376-79.

53. General Agreement on Tariffs and Trade, *opened for signature* Apr. 15, 1994 in GATT SECRETARIAT, THE RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS 21, GATT Sales No. 1994-4 (1994) [hereinafter GATT].

54. Sharif Haron, *Malaysia: Labeling Must Apply to All Timber*, BUS. TIMES, Apr. 6, 1994, at 1.

55. *Id.*

56. See, e.g., Fadzil Ghazali, *Malaysia: Anti-Tropical Timber Drive a Heavy Burden*, BUS. TIMES, Feb. 26, 1994, at 2 (addressing the contention of developing nations that deforestation is actually worse in temperate nations).

57. Charles Arden-Clarke, *An Action Agenda for Trade Policy Reform to Support Sustainable Development: A United Nations Conference on Environment and Development Follow-up*, in ZÄELKE, *supra* note 4, at 72.

58. WORLD RESOURCES INSTITUTE, *supra* note 1, at 122.

ical timber certification under the GATT has never been tested, although many speculate that such a scheme could not withstand the GATT's non-discrimination provisions.⁵⁹

Moreover, manipulating market consumption patterns through trade techniques is unlikely to have a major effect on global consumption of tropical wood.⁶⁰ Tropical timber accounts for only ten percent of the world's timber supply and only one percent of all tropical timber felled is ultimately exported.⁶¹ Any remedy directed only at international trade in timber will therefore have a marginal effect.

Despite the low percentage of tropical wood reaching international markets, timber is vital to the domestic economies of developing countries.⁶² Erecting trade barriers that curtail economic growth could increase poverty and intensify deforestation. Any approach which exacerbates poverty will necessarily exacerbate deforestation. Likewise, any approach which attempts to stem deforestation without alleviating poverty cannot succeed.

Trade policies alone do not adequately promote sustainable tropical forest management. Because trade barriers risk fostering resentment between developed and developing nations, the international community should look beyond trade based approaches. Alternative solutions should focus on domestic resource management policies because they provide a more effective approach to deforestation.

III. NATIONAL LAND POLICIES AND DEFORESTATION

The way a nation defines property rights impacts the health of its land and resources. Property rights encompass a range of privileges and commensurate responsibilities granted to individ-

59. Chase, *supra* note 2, at 379-87.

60. *Id.* at 361. Conservationists disagree and have called for outright bans on imports of tropical timber in order to promote sustainable forest management. See Peter Osborne, *Malaysia: Environmentalists Seek Ban on Sarawak's Rich Timber Exports*, AUSTL. FIN. REV., Aug. 28, 1990, at 36S (describing the differing perceptions of conservation groups and the timber industry over the influence of consumption patterns on the tropical timber trade). Environmentalists argue that tropical timber should be imported only from sustainably managed forests. *Id.* Timber producers, on the other hand, contend that such a tactic would decrease the value of forests and therefore lead to greater deforestation. *Id.*

61. Chase, *supra* note 2, at 356, 361. See also Brian Johnson, *Crisis for the World's Forests*, THE INDEPENDENT, July 3, 1989, at 13 (exploring the myth that deforestation is largely caused by logging).

62. Chase, *supra* note 2, at 360. For example, timber is Indonesia's second highest export earner behind oil and gas. *Id.*

uals in a particular asset such as land.⁶³ Governments demarcate property rights and dictate the use and allocation of these rights.⁶⁴ The health of the natural environment depends on how governments establish access to land and natural resources.

A. TAXONOMY OF PROPERTY MANAGEMENT SYSTEMS

There are four distinct management regimes: state, private, common property, and open access.⁶⁵ In a state management system, the government owns the land.⁶⁶ Individuals have access to land and resources, but that access is subject to state control.⁶⁷ Management decisions are the responsibility of the state.⁶⁸

Private property regimes transfer property from the government to private individuals through direct sales or disposal programs.⁶⁹ The right to exclude others is a critical aspect of private ownership.⁷⁰ Individual landholders must manage their resources in ways consistent with public laws but generally retain wide latitude to make management decisions.⁷¹

63. GARY LIBECAP, *CONTRACTING FOR PROPERTY RIGHTS* 1 (1989). Property ownership involves responsibilities as well as rights. Theoretically, these responsibilities require that the owner incur the costs of resource use decisions. *Id.* at 10. In reality, many of the costs associated with environmental decisions are borne by adjacent landholders, governments, or other citizens who suffer from adverse environmental decisions.

64. *Id.* at 1.

65. DANIEL BROMLEY, *ENVIRONMENT AND ECONOMY: PROPERTY RIGHTS AND PUBLIC POLICY* 22 (1991). Bromley's work reflects commonly understood property types, but specifically differentiates common property regimes in order to point out their applicability in certain natural resource management contexts. Distinguishing common property from open access regimes sets Bromley apart from many other resource policy analysts who fail to see a difference between the two.

66. *Id.* at 23.

67. *Id.* at 147.

68. *Id.* There are two types of state management regimes. The first includes land designations such as parks or preserves which the government actively manages. *Id.* The second type involves land for which the state has not yet dedicated a use. *Id.* In the latter instance, the lack of management precipitates free riders. *Id.*

69. *See id.* at 24-25. Upon claiming sovereign title to the land, governments often institute programs that grant land tenure to individuals upon the clearing and utilization of "unused" lands. Repetto, *supra* note 12, at 15. This type of program often results in governments displacing established indigenous communities. *Id.*

70. LIBECAP, *supra* note 63, at 1.

71. BROMLEY, *supra* note 65, at 24, 31.

Common property systems are similar to private property regimes in a variety of ways.⁷² Both systems are predicated on the right to exclude access to outsiders.⁷³ The rights holders in both regimes retain management authority for their land and resources subject to state and federal laws.⁷⁴ The primary difference between private and common property is that the community rather than an individual dictates rights to the resources.⁷⁵ The role of individuals in this regime is far from minimized, however, as each individual community member has rights and duties involved with land and resources.⁷⁶ Indigenous communities typify such arrangements as they are characterized by communally controlled access and use patterns.⁷⁷

The fourth system, open access, has no definable structure for property rights and management.⁷⁸ Open access regimes are created when there is no management system in place or when an existing system breaks down.⁷⁹ Without defined property rights, no commensurate duties are imposed on resource users.⁸⁰ Resource economists generally agree that the lack of property rights causes resource exploitation.⁸¹ When no one bears any obligation to consider the impact of resource use, exploitation will lead to "tragedies of the commons"⁸² and free

72. *Id.* at 25-29.

73. *Id.*

74. *Id.*

75. *Id.*

76. *Id.*

77. "Indigenous People" is a difficult term to define. The World Council of Indigenous Peoples has adopted a formal definition: "Indigenous people shall be people living in countries which have populations composed of different ethnic or racial groups who are descendants of the earliest populations which survive in the area, and who do not, as a group, control the national governments of the countries within which they live." JOHN H. BODLEY, *VICTIMS OF PROGRESS* 166-67 (1982). For further discussion on how indigenous communities typify common property regimes, see *infra* notes 112-14 and accompanying text.

78. BROMLEY, *supra* note 65, at 30.

79. *Id.* See also Repetto, *supra* note 13, at 16. Repetto attributes the mismanagement of forest resources to the displacement of common property systems by open access systems. *Id.* Displacing indigenous management systems weakens traditional controls over management. *Id.* Thus forests become vulnerable to open access problems. *Id.*

80. BROMLEY, *supra* note 65, at 31.

81. See, e.g., Garret Hardin, *The Tragedy of the Commons*, *SCI.*, Dec. 13, 1968, at 1243-48.

82. BROMLEY, *supra* note 65, at 22. Garret Hardin coined the phrase "tragedy of the commons" to describe the fate of resources held in common, i.e., not privately owned. Hardin, *supra* note 81, at 1243-48. Hardin's thesis, that resources held in common are subject to overexploitation, has become a truism in modern day policy discourse concerning land management regimes. Fikret

rider problems.⁸³ Uncontrolled access exacerbates resource degradation.

B. DOES PRIVATIZATION ENSURE PRESERVATION?

Advocates of privatization claim that natural resources are best protected when privately owned.⁸⁴ These theorists place a premium on "efficiency" and reason that market forces most properly allocate resources.⁸⁵ In support of their hypothesis, privatization theorists point to environmental organizations that purchase pollution credits and buy land for habitat preservation.⁸⁶ They conclude that environmental destruction is rooted in poorly defined property regimes.⁸⁷

Property rights constitute a structure of economic incentives that impact individuals and communities.⁸⁸ Private property advocates believe these economic incentives bear environmentally positive fruit only when resources are privately

Berkes et al., *The Benefits of the Commons*, NATURE, July 13, 1989, at 91. Berkes and others, while agreeing that tragedies can result under open access systems, dispute the application of Hardin's thesis to common property resources. See *infra* part IV.C.

83. The problem of free riders is a correlate of the tragedy of the commons. Free riders are those individuals who respond to economic incentives to exploit resources at no cost to them, leading to the degradation of the land and resources. Carlisle Ford Runge, *Common Property and Collective Action in Economic Development*, 14 WORLD DEV. 623, 624 (1986).

84. See RICHARD STROUP & JOHN BADEN, NATURAL RESOURCES: BUREAUCRATIC MYTHS AND ENVIRONMENTAL MANAGEMENT 16 (1983).

85. *Id.* Stroup and Baden state that markets promote flexibility and individual freedom only when:

property rights to each resource are privately held and easily transferable, ensuring that decision makers will have an incentive to identify the highest value of their resources. . . . In the absence of such clearly defined and enforceable rights, resources may be utilized by individuals who need not compensate or outbid anyone for their use, resulting in substantial waste.

Id. at 16.

86. BROMLEY, *supra* note 65, at 34-38. See also STROUP & BADEN, *supra* note 84, at 17-19.

87. STROUP & BADEN, *supra* note 84, at 17. Stroup and Baden describe the free rider problem as particularly acute in the context of natural resources. *Id.* at 19. Because ownership in a system of non-defined resources is not recognized until someone extracts a resource benefit, there is an incentive for individuals to withdraw the resource as quickly as possible, thus resulting in its misallocation and waste. *Id.* at 20.

88. Daniel Bromley, *Economic Dimensions of Community-based Conservation*, in NATURAL CONNECTIONS: PERSPECTIVES IN COMMUNITY-BASED CONSERVATION 432 (David Western & R. Michael Wright, eds., 1994) [hereinafter *Economic Dimensions*].

held and transferable.⁸⁹ Conversely, environmental destruction occurs when resources are open to all without cost or consequence.⁹⁰

Within this theoretical construct, global trade exacerbates environmental destruction because nations with established private property regimes trade with nations having open access regimes.⁹¹ Weak property regimes keep production costs low for exporter nations. These low costs attract developed property nations because their resource extraction costs are necessarily higher. The variation in property regimes, according to this theory, creates a vicious cycle in which countries with ill defined property rights continue to exploit their resources to satisfy the demands of importing countries.⁹²

The policy debate thus far has been cast as an either-or situation. A government either adopts a property regime conferring rights upon individuals or it grants no-one rights to a given resource.⁹³ This dichotomy, however, is false.⁹⁴

Policy makers consistently confuse open access systems with common property systems, blurring their subtle but fundamental differences.⁹⁵ Policy decisions are thus predicated on a false choice between open access systems with no management structure and private property regimes in which management responsibility is well-defined.⁹⁶ Given the environmental degradation associated with open access systems, this choice appears easy to make. By neglecting common property systems, policy makers place undue emphasis on privatizing resources as *the* way to insure environmental stability.⁹⁷

89. STROUP & BADEN, *supra* note 84, at 16.

90. Graciela Chichilnisky, *North South Trade and the Global Environment*, 84 AM. ECON. REV. 851, 853 (1994).

91. *Id.* at 852.

92. *Id.*

93. See generally *id.* at 853. Chichilnisky makes no distinction between common property and open access systems, and uses the terms interchangeably. This leads to erroneous conclusions about the efficacy of common property systems.

94. BROMLEY, *supra* note 65, at 22. Bromley criticizes economists and environmental policy makers who do not differentiate between common property and open access regimes. *Id.* He claims that this misunderstanding, coupled with the fallacy of the tragedy of the commons, denies the possibility that resource users can act together to institute a workable resource management system. *Id.*

95. *Id.*

96. *Id.* at 147.

97. *Id.*

C. OBSTACLES TO ADOPTING COMMON PROPERTY ARRANGEMENTS

Common property advocates assert that such systems can benefit natural ecosystems as well as local communities.⁹⁸ Several obstacles, however, prevent incorporating common property alternatives into the policy debate. The confusion of common property regimes and open access systems presents a primary obstacle. Common property regimes superficially resemble open access systems. Neither system uses written title or otherwise officially demarcated boundaries.⁹⁹ A lack of formal recording systems does not imply a lack of management. Indeed, the fact that common property regimes are actively managed, whereas open access systems lack management, goes to the heart of the difference between these two systems.¹⁰⁰ Failing to recognize a management structure within common property regimes blurs the boundary between the systems.¹⁰¹

A second obstacle to implementing common property regimes involves translating them into a modern context.¹⁰² Although common property systems worked well when population densities were lower, applying such regimes to today's demographics is questionable.¹⁰³ In an increasingly interdependent world, common property regimes may not be able to meet the needs of non-local populations without modification.¹⁰⁴ Likewise, the ability of these regimes, without modification, to sustainably manage valuable resources in the face of increasing population pressures is dubious.¹⁰⁵

The political marginalization of indigenous cultures is the third obstacle to implementing common property systems. In order for these systems to work, national governments must devolve authority to local community groups.¹⁰⁶ Private property systems only work when owners can rely on enforcement of their

98. *Economic Dimensions*, *supra* note 88, at 428.

99. Runge, *supra* note 83, at 624.

100. See BROMLEY, *supra* note 65, at 25-31. See also Fikret Berkes, *Introduction and Overview*, in *COMMON PROPERTY RESOURCES: ECOLOGY AND COMMUNITY BASED SUSTAINABLE DEVELOPMENT* 8 (Fikret Berkes ed., 1989).

101. BROMLEY, *supra* note 65, at 147.

102. See CLAY, *supra* note 16, at 2; Runge, *supra* note 83, at 623. Both authors discuss the viability of converting traditional systems of common property ownership into modern systems.

103. Runge, *supra* note 83, at 623.

104. CLAY, *supra* note 16, at 2.

105. *Id.* at 4.

106. *Economic Dimensions*, *supra* note 88, at 436-37.

individual interests by a state government.¹⁰⁷ The right to control land use must be similarly enforceable in common property systems.¹⁰⁸ The reluctance of state governments to validate common property systems reflects their hesitation to share land use authority with local communities.

This reluctance has been overcome to a limited degree in the U.S. and Canadian Arctic through the adoption of cooperative management systems.¹⁰⁹ Cooperative management allocates authority and expertise for management decisions between local communities and state and national governments.¹¹⁰ By sharing responsibility for resource decisions, cooperative management structures a discourse between state authorities and local residents.¹¹¹ This amalgam of common property and state management often provides the best opportunities for managing important resources.

D. EFFECTS OF NEGLECTING COMMON PROPERTY SYSTEMS IN NATIONAL LAND TENURE POLICIES

The failure to identify common property as a distinct land management regime has three important policy consequences. First, working management regimes are supplanted with less efficient systems. State governments inevitably nationalize large tracts of natural areas, displacing indigenous communities and

107. *Id.* at 437.

108. *Id.* at 439.

109. See generally David Case, *Subsistence and Self-Determination: Can Alaska Natives Have a More "Effective Voice"?* 60 U. COLO. L. REV. 1009 (1989) (discussing different cooperative management structures and their efficacy in Alaskan resources management).

110. Cooperative management is defined as an:

institutional arrangement in which government agencies with jurisdiction over resources and user groups enter into an agreement . . . and make explicit (1) a system of rights and obligations for those interested in the resource, (2) a collection of rules indicating actions that subjects are expected to take under various circumstances, and (3) procedures for making collective decisions affecting the interests of government actors, user organizations, and individual users.

Gail Osherenko, *Wildlife Management in the North American Arctic: The Case for Co-Management*, in *TRADITIONAL KNOWLEDGE AND RENEWABLE RESOURCE MANAGEMENT* 94 (Milton Freeman & L. Carbyn, eds., 1988) (citation omitted).

111. In addition, involving local communities to a greater degree in resource management decisions achieves a variety of international policy goals. Lee Breckenridge, *Protection of Biological and Cultural Diversity: Emerging Recognition of Local Community Rights in Ecosystems under International Environmental Law*, 59 TENN. L. REV. 735, 767-75 (1992). Breckenridge cites some examples of "co-management" systems (resource management agreements between local communities and state) that may serve as paradigms for achieving sustainable forest management. *Id.*

their common property management systems.¹¹² Since common property systems are invisible and their communities politically powerless, they offer little effective resistance to nationalization.¹¹³ The land is then either sold to private entities or lapses into an open access system.

Second, the confusion between common property and open access wrongly attributes environmental degradation to both systems.¹¹⁴ This misunderstanding fosters the conclusion that privatization is the best solution in any context.¹¹⁵ Privatization is not always the most appropriate land tenure system, however. Rural village communities have unique attributes making it difficult for a private property regime to comport with their economic and cultural realities. Private property rights that rely on intricate systems of surveying and registration are expensive to define and enforce.¹¹⁶ The wealthy economies of developed nations assimilate these costs more easily than the economies of the developing world. Similarly, village economies are often much more dependent on the health of a local agricultural and natural resource base than are urban communities.¹¹⁷ Assignment of exclusive rights to a given piece of land is inherently unfair in a village setting because it excludes others who are equally dependent on that resource.¹¹⁸

Third, the false dichotomy between private regimes and open access systems precipitates environmentally unsound policies. State run programs emphasize and reward efforts to "use" forest lands, often to the detriment of the natural environment.¹¹⁹ These programs are culturally biased, as the state fails to reward the similar efforts of indigenous communities to utilize natural resources.¹²⁰ These policy choices flow from a fail-

112. Repetto, *supra* note 13, at 16.

113. The displacement of local common property systems is a recent phenomenon in many countries. For example, until the 1970s, tribal chiefs in Ghana governed the rights to the forest resources in a common property system. *Id.*

114. Runge, *supra* note 83, at 623-24. Runge asserts that environmental degradation is only attributable to open access systems. *Id.* See also BROMLEY, *supra* note 65, at 22.

115. This conclusion is buttressed by the free market arguments. See *supra* part IV.B.

116. Runge, *supra* note 83, at 624.

117. *Id.* at 625.

118. *Id.*

119. CLAY, *supra* note 16, at 1.

120. *Id.* See also Repetto, *supra* note 13, at 15 (stating that Native people can obtain title by clearing and cultivating land).

ure to completely understand the different land management options that are available.

IV. COMMON PROPERTY ALTERNATIVES

A. THE PROMISE OF COMMON PROPERTY

Common property systems provide opportunities for environmental stability, cultural survival, and economic growth. Private property systems marginalize local communities and contribute to current environmental instability.¹²¹ Empowering local people by giving them decision making authority assists in the preservation of globally important resources because local communities depend on the resources and land on which they live.¹²² This dependence has important ramifications for land management.¹²³

There are four characteristics of local communities that lend themselves to attaining international environmental goals: (1) a long term knowledge of the surrounding ecosystems; (2) traditional agricultural and other practices that foster the productivity and renewability of resources; (3) community organization that regulates access to resources in a sustainable manner; and (4) community values that emphasize permanency in a given area, respect for that area, and responsibility to future generations.¹²⁴

Common property systems offer economic opportunities. Forests provide resins, essential oils, medicinal substances, rattan, flowers, and a number of other commercially valuable products.¹²⁵ The value of these products is substantial.¹²⁶ Local

121. Breckenridge, *supra* note 111, at 739.

122. A critical component of the definition of indigenous people is their dependence on the natural environment for food, shelter, culture, and ritual. William Shutkin, *International Human Rights Law and the Earth: The Protection of Indigenous Peoples and the Environment*, 31 VA. J. INT'L L. 479, 484 n.21 (1991).

123. Spatially, local involvement in resource management can positively impact the health of local natural resources. Breckenridge points out that "ecologists now note that biological diversity and ecological stability often coincide with the traditional territories of communities that have successfully relied on the sustained productivity of local renewable resources." Breckenridge, *supra* note 111, at 746 (citation omitted).

Temporally, the pattern of resource use over time tends toward sustainability as local communities have a vested interest in the survival of their future generations. "Communities that depend directly on the renewability of biological resources in a given area for their livelihood have a special stake in sustaining and protecting the biological resource base for local uses." *Id.*

124. *Id.* at 746-48.

125. Repetto, *supra* note 13, at 12.

communities realize the economic potential of forest products, but tend to limit their exploitation of those resources in a sustainable manner in order to provide for their current needs and the needs of future generations.¹²⁷ Common property systems offer a model for sustainable forest management because they can support the cultural and economic needs of a community while promoting the health of the surrounding ecosystem.

B. THE GROWING THEORETICAL ACCEPTANCE AND PRACTICAL IMPLEMENTATION OF COMMON PROPERTY SYSTEMS

Common property systems provide a complete theoretical paradigm for sustainably managing forest resources.¹²⁸ Many studies of both historic and contemporary indigenous systems document sustainable management techniques, and provide a model for applying such systems in a modern context.¹²⁹ Involving local communities in managing the world's tropical forests is gaining acceptance in both environmental theory and practice.

Theoretically, the proposition that management authority be shared between local communities and national governments is supported in a non-binding statement of forest management principles adopted at the 1992 Earth Summit.¹³⁰ That statement advocates recognizing and supporting the rights of indigenous peoples to "enable them to have an economic stake in forest use, perform economic activities, and achieve and maintain cultural identity . . . through . . . those land tenure arrangements which serve as incentives for the sustainable management of forests."¹³¹

Practically, some nations recognize that local communities maintain sustainable forest practices and include these commu-

126. For example, in the early 1980s, exported forest products provided \$125 million a year to Indonesia. *Id.*

127. Breckenridge, *supra* note 111, at 745-46.

128. Berkes, *supra* note 100, at 15.

129. See generally CONSERVATION OF NEOTROPICAL FORESTS: WORKING FROM TRADITIONAL RESOURCE USE (Kent Redford & Christine Padoch, eds. 1992) (providing a multitude of case studies examining sustainable management systems found in indigenous cultures); CLAY, *supra* note 16 (documenting a variety of examples in different developing nations of indigenous forest management systems as examples of sustainable models of resource use); Berkes, *supra* note 100 (comparing common property systems to open access systems).

130. *Forestry Principles*, *supra* note 24, at 5(a).

131. *Id.*

nities in the planning and management of national forests.¹³² Converting forest lands into common property systems is not generally an obstacle to implementing such policies because most tropical forests in developing nations are owned by the state.¹³³ Therefore, state condemnation of private property is not usually an issue.¹³⁴

Implementing common property systems reestablishes traditional methods of management that predate state ownership. State ownership often displaced local management systems but failed to replace them with other functioning structures, resulting in the exploitation of natural resources.¹³⁵ By re-instituting common property systems, governments establish a working management system which provides a sensible alternative to the lack of control characterized by an open access regime.

V. THE GLOBAL COMMUNITY'S ROLE IN PROMOTING COMMON PROPERTY ALTERNATIVES

Tropical deforestation is a geographically specific event with global consequences. International efforts are vital to lowering the rate of tropical deforestation. To be effective, these efforts

132. JOINT MANAGEMENT OF FOREST LANDS: EXPERIENCES FROM SOUTH ASIA 32 (1990). For example, in Nepal, a 1977 National Forestry Plan allowed community involvement in managing national forests. *Id.* The plan was later updated by a 1989 plan that similarly emphasized community control over management authority of Nepal's forests. *Id.* This planning process took advantage of functioning indigenous forest management systems as defined by the traditional community structure. *Id.* at 42-43. This effort is ongoing with constant re-evaluation of the ways in which the national forest management system can integrate local, indigenous management systems. *Id.* The full management potential of these systems will not be realized, however, until planners and foresters understand the existing social structure and the national government adopts policies that recognize and integrate these structures. *Id.* at 43.

Colombia provides another example where responsibility for land management was returned to local indigenous populations. *See generally* PETER BUNYARD, THE COLOMBIAN AMAZON: POLICIES FOR THE PROTECTION OF ITS INDIGENOUS PEOPLES AND THEIR ENVIRONMENT (1989) (describing the Colombian policy of devolving forest management to local tribes in an effort to implement sustainable forestry). Indian populations are able to survive in the rain forest in a manner that "enables sustainability without causing long term damage." *Id.* at 116. Eighteen million hectares have been returned to the indigenous peoples of the Colombian Amazon, the majority of this transfer since 1988. *Id.*

133. Repetto, *supra* note 13, at 16. Over 80% of closed forest lands are publicly held according to a comprehensive FAO assessment. *Id.*

134. *Id.*

135. *Id.*

should formulate a framework for cooperation with national governments and local communities within tropical regions. The strategic response to tropical deforestation should integrate alternative land tenure arrangements.¹³⁶

On a local level, partnerships between local communities and the international community help create responsible environmental policies in developing nations.¹³⁷ Such a framework ensures that international aid programs help, not hurt, people in the regions targeted by these programs.¹³⁸ Ironically, international environmental organizations have far greater leverage in policy making than the citizens of developing nations.¹³⁹ Forming meaningful partnerships between international environmental organizations and local communities will empower these communities. As a result, the ability of local people to change national land policies will be strengthened.¹⁴⁰ Grass roots involvement in determining global environmental policies comports well with the international environmental agenda after the 1992 Rio Earth Summit.¹⁴¹

Some criticize this approach for neglecting the interests of national governments. International trade policies can respond to this criticism. By instituting a system of trade preferences, the international community provides the governments of developing nations with an economic incentive to work with the local communities and the international arena.

The Generalized System of Preferences¹⁴² (GSP) exemplifies this type of approach. The GSP is one way the United States effectuates particular policies within developing nations. The

136. WORLD RESOURCES INSTITUTE, *supra* note 1, at 121.

137. Wirth, *supra* note 26, at 2649. The author developed a partnership model of advocacy to promote cooperation between international and domestic organizations in developing international aid priorities for environmental projects. *Id.*

138. Partnership, as Wirth defines it, refers to cooperation between external, international environmental organizations (in Wirth's analysis, those organizations located in the United States who can exert a great deal of influence over determining international aid programs) and the foreign interests they purport to represent. *Id.* at 2651.

139. *Id.* at 2652.

140. *Id.* at 2659.

141. Breckenridge, *supra* note 111, at 736.

142. This system is part of the Trade Act of 1974, Pub. L. No. 93-618, tit. V., §§ 501-05, 88 Stat. 2066 (1975) (codified as amended in 19 U.S.C. §§ 2461-65 (1988)), cited in James Kelleher, Note, *The Child Labor Deterrence Act: American Unilateralism and the GATT*, 3 MINN. J. GLOBAL TRADE 161, 163 (1994). The GSP allows the President of the United States to provide duty free treatment for any eligible article from any beneficiary developing country. *Id.*

U.S. bestows duty free tariffs upon "beneficiary developing countries"¹⁴³ who comply with U.S. policy goals.¹⁴⁴ Currently, the GSP offers an incentive for developing countries to comply with workers' rights standards.¹⁴⁵

GSP or similar trade benefits consistent with the GATT could be the "carrot" to encourage nations to develop management practices that involve local communities, such as common property systems. The GSP system provides one example of how trade policies could encourage adopting sustainable forest policies by requiring the involvement of local people in forestry decisions.

Local communities contribute unique knowledge, management practices, and values integral to the development of sustainable management principles.¹⁴⁶ They are proven resource managers and provide a functional model of sustainability.¹⁴⁷ Common property land tenure arrangements require significant local involvement which satisfies this global environmental goal.¹⁴⁸

Common property systems require sharing political power between national governments and local people. Therefore, the cooperation of national governments is essential to the development of these regimes.¹⁴⁹ Economic incentives embodied by the GSP facilitate this type of cooperation. These efforts by developed nations would demonstrate to tropical timber producers that they are serious about sustainable forest management. By "putting their money where their mouths are," developed nations would ease the distrust between themselves and tropical nations.

VI. CONCLUSION

Common property systems offer a means to reduce the rate of deforestation and still provide for local economic and cultural needs. The role of the international community in establishing these systems is vital. Future efforts should encourage partnerships between international environmental organizations, national governments and local communities. International

143. Juli Stensland, Note, *Internationalizing the North American Agreement on Labor Cooperation*, 4 MINN. J. GLOBAL TRADE 141, 151 (1995).

144. *Id.* at 151 n.74.

145. *Id.* at 151-52.

146. Breckenridge, *supra* note 111, at 746-48.

147. *Id.* at 737.

148. *Forestry Principles*, *supra* note 24, at 5(a).

149. See *supra* notes 109-11 and accompanying text.

recognition of common property as a workable regime that supports sustainable management gives credibility to common property systems. Policies promoting sustainable forest management should identify and incorporate these systems as an appropriate management tool. Offering economic incentives to nations implementing such policies may secure the cooperation of national governments in meeting global environmental goals.

